A Snapshot of Kidney Cancer

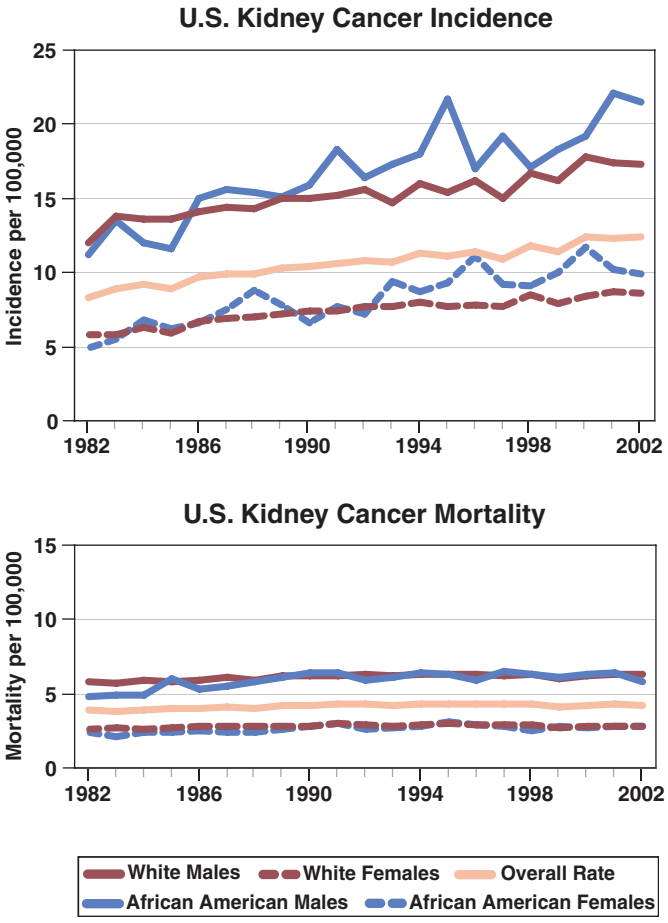
Incidence and Mortality Rate Trends

Kidney cancers encompass renal cell and renal pelvis cancers, which are, respectively, cancer sites within the main and lower parts of the kidney. Kidney cancer incidence has been increasing at a rate of about 2 percent per year for the past 65 years; the reasons for this increase are unclear. The overall mortality rate from kidney cancer has slightly increased over the past two decades, though not as rapidly as the incidence rate. Kidney cancer incidence and mortality rates are nearly twofold higher for men than for women.

It is estimated that approximately $1.9 billion* is spent in the United States each year on treatment of kidney cancer.

*In 2004 dollars, as reported in Brown ML, Riley GF, Schussler N, and Etzioni RD. Estimating health care costs related to cancer treatment from SEER-Medicare data. *Medical Care* 2002 Aug; 40 (8 Suppl): IV-104-17.

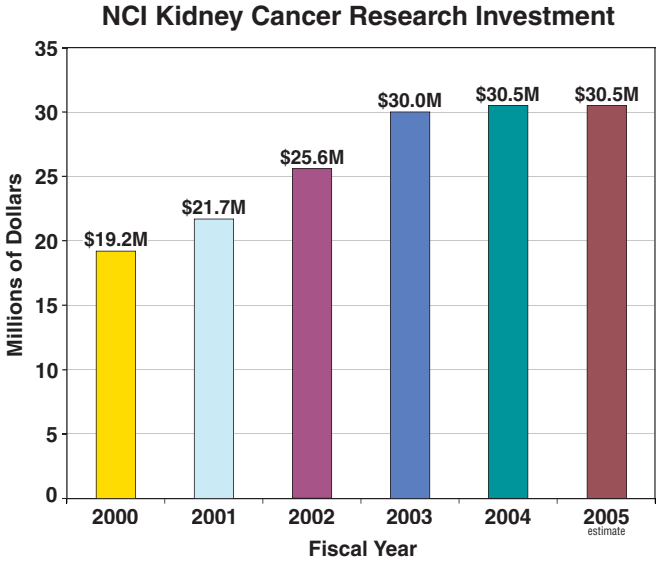
Source for incidence and mortality data: Surveillance, Epidemiology, and End Results (SEER) Program and the National Center for Health Statistics. Additional statistics and charts available at: http://seer.cancer.gov/



Trends in NCI Funding for Kidney Cancer Research

The National Cancer Institute's (NCI's) investment in kidney cancer research has increased from $19.2 million in fiscal year 2000 to an estimated $30.5 million in fiscal year 2005.

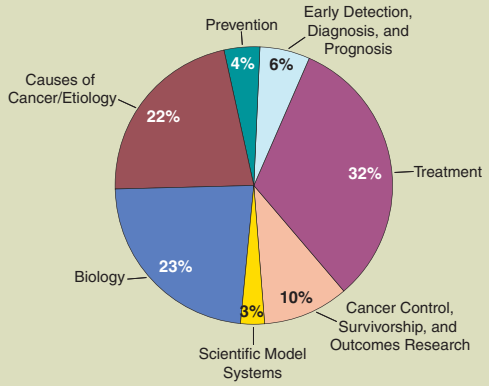
Source: NCI Financial Management Branch
http://www3.cancer.gov/admin/fmb



Examples of NCI Research Initiatives Relevant to Kidney Cancer

- Two genitourinary cancer-specific **Specialized Programs of Research Excellence (SPOREs)** are moving results from the laboratory to the clinical setting. http://spores.nci.nih.gov/current/genitourinary/genitourinary.html
- NCI's **Case-Control Study of Renal Cell Cancer among Caucasians and African Americans in the United States** will strive to identify risk factors for renal cancer. Investigators hope to clarify the role of smoking, obesity, hypertension, medications, susceptibility genes, and other factors in the etiology of renal cancer. http://dceg.cancer.gov/occu-StudiesEnrolling.html
- The **Early Detection Research Network**, comprised of 28 NCI grantees focused on creating and validating biomarkers, is at the forefront of technology-driven research on the early detection of cancer. Current validation studies include microsatellite analysis for the molecular diagnosis of kidney cancer. http://www3.cancer.gov/prevention/cbrg/edrn/
- The **Cooperative Human Tissue Network (CHTN)** is a nationwide collaborative network that specializes in the procurement, preservation, and distribution of human tissues for biomedical research, including normal and pathological kidney tissues. http://www-chtn.ims.nci.nih.gov/index.html

NCI Kidney Cancer Research Portfolio



Percentage of Total Dollars by Scientific Area
Fiscal Year 2004

* Data on training grants are not included in this figure. A description of the relevant research projects can be found at the NCI Cancer Research Portfolio website at http://researchportfolio.cancer.gov.

- The **Kidney/Bladder PRG**, a panel of prominent scientists and patient advocates, assessed the state of the science and identified future research priorities for kidney and bladder cancers. http://planning.cancer.gov/disease/prg.shtml
- The **Kidney Cancer Home Page** provides up-to-date information on kidney cancer treatment, prevention, genetics, causes, and other topics. http://cancer.gov/kidney

Selected Opportunities for Advancement of Kidney Cancer Research

- Initiate epidemiology studies that pool the resources of research centers seeing a relatively high number of patients to identify risk factors for kidney cancer and to develop molecular markers for early detection and treatment monitoring.
- Develop molecular agents that target cancer growth and progression without jeopardizing organ function or quality of life to improve treatment of late-stage kidney cancer.
- Characterize the molecular and cellular pathways in kidney cancer cells and their microenvironment to classify subtypes of kidney cancer. Use new knowledge to develop and validate molecular targets for prevention and treatment.
- Facilitate development and utilization of noninvasive or minimally invasive techniques to image and assess the biological and clinical effects of targeted therapies.